



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

## ARBORES FRUTICESQUE CHINENSES NOVI. I

CAMILLO SCHNEIDER

**Deutzia** (Sect. EUDEUTZIA, subsect. STENOSEPALAE Schn.)  
**Rehderiana**, sp.n.—Frutex ut videtur mediocris, dense breviter ramosus; ramuli annotini biennesque dense scabriter stellato-pilosi, rubro-fusci, vetustiores glabrescentes, cortice deterrenti; gemmae parvae, perulis pluribus lanceolatis acuminatis fusco-rubris pilosis cinctae. Folia matura papyracea, ovato-oblonga vel pleraque satis late ovata, apice satis sensim acuta, basi rotundata, margine breviter et subdistanter argute serrata, 1.5–2.5 cm. longa, 0.8–2 cm. lata vel surculorum ad 3.8:2.5 cm. magna, superne obscure viridia, scabra, pilis stellatis (4–)5–7 (–8)-radiatis subdense vel sparsius conspersa, subtus pallidiora, subcinerascens vel in sicco interdum quasi caesio-viridia, in facie pleraque densius in nervis laxius pilosa pilis 5–7–9 radiatis, nervis lateralibus utrinsecus 4–5; petioli 1–3 mm. longi, superne sulcati, undique dense stellato-pilosi. Cyma 3–8-flora, pleraque subsessilis, ramulos laterales breves 1–2 rarius ad 4 cm. longos terminans, plus minusve dense stellatopilosa; pedicelli graciles, fructiferi ad 5–6 mm. longi; calyx stellatomentosus pilis homomorphis 9–12-radiatis, dentibus triangulari-lanceolatis tubum aequantibus vel subaequantibus rarius subsuperantibus acuminatis intus glabris; petala alba (vel lactea?), extus sparse stellato-pilosa, ovato-vel elliptico-oblonga, apice satis acuta, 7–9 mm. longa, 3–4 mm. lata; stamina exteriora longiora petalis circ. duplo breviora, interiora exterioribus paullo breviora; filamenta exteriorum apice manifeste bidentata dentibus latis rectangularibus vel subtriangularibus antheram breviter stipitatum subaequantibus vel parum superantibus interdum anthera brevioribus, interiorum lata, apice truncata et irregulariter denticulata vel versus apicem sensim acuta, antheram faciei interiori circa medium affixam gerentia; styli 3 laciniis calycis vix longiores. Capsula hemisphaerica, circ. 3 mm. crassa, lobis erectis vel incurvis plus minusve deciduis.

Yunnan occidentalis: inter Talifu et Tengyüeh, probabiliter in regione inter flumina Mekong et Salween, Octobri 1914, *C. Schneider* (no. 2613; typus in Herb. Arb. Arn. et in Hb. Schneider).

This is a very distinct looking plant, with its small, broadly ovate, almost subsessile leaves, and its few-flowered inflorescences which are borne on short lateral branchlets. It seems to be most closely related to *D. subsessilis* Rehd., which may easily be distinguished by its much longer (up to 6 cm.), more oblong leaves whose stellate hairs of the under surface have only 4-6 rays, by its larger and richer inflorescences, and by its larger flowers.

It is with great pleasure that I connect with this distinct species the name of Mr. ALFRED REHDER, the well known dendrologist of the Arnold Arboretum, who (SARGENT, Pl. Wils. 1:1913) has given an excellent contribution to the knowledge of the genus *Deutzia*.

**Spiraea** (Sect. CHAMAEDRYON Ser.) **teretiuscula**, sp.n.—Frutex latus, ad 2 m. altus, laxe ramosus, ramis subnutantibus; ramuli hornotini flavescentes vel violascentes, vix sulcato-striati, puberuli, annotini rubro-brunnei vel fusci, teretiusculi, vetustiores cinerascences; gemmae ut videtur parvae, ovatae, perulis imbricatis pilosis obtectae. Folia decidua, ovalia, obovalia vel ovato-elliptica, apice rotundata, interdum fere submarginata, minutissime apiculata, basi plus minusve late cuneata, 6-11 mm. longa, 3-7 mm. lata, margine integerrima, superne laete viridia, tantum novella minutissime puberula, cito glaberrima, subtus discoloria, cinerascencia, initio paullo distinctius pilosa, dein etiam glabra, sub microscopio ut in *S. canescenti* papillosa, nervis utrinsecus 3-4 vix visibilibus; petioli flavescentes, vix 1.5 mm. longi, puberuli. Corymbus circ. 25-florus, convexus, tomentosulus, ramulos normaliter plurifoliosos 1-3 cm. longos terminans, 1.5-2.5 cm. diametiens; flores albi, circ. 5 mm. diametientes; pedicelli graciles, floribus breviores, tomentosuli; receptacula late turbinata, extus tomentosula, intus pilosula; sepala late triangularia, receptaculis aequilonga, extus glabra, intus ad apicem et ad marginem fulvo-villosula; petala suborbicularia, circ. 1.5 mm. lata, sepala duplo superantia; stamina 20, petalis subaequilonga; discus distinctus 10-lobatus, lobis apice dorsoque leviter sulcatis; carpodia extus versus basim intus ad ventrem sparse villosa, stylis apicalibus quam stamina subduplo brevioribus. Fructus maturi ignoti.

Szechuan australis: in regione Yen-yüan Hsien, inter viculos Ka-la-pa et Liu-ku, in dumetis montanis, alt. circ. 3000 m., 17 Maji 1914, *C. Schneider*

(no. 1256); eadem regione, prope Kua-pie, in declivibus calcareis montium, alt. circ. 3000 m., 23 Maji 1914, *C. Schneider* (no. 3546; typus in Herb. Arb. Arn. et Hb. Schneider).

At first sight, this species seems to be much like *S. ovalis* Rehd., which also has terete branchlets and similar leaves and flowers, but which is easily distinguished by the glabrous branchlets, leaves, and inflorescence, as well as by the leaves being not papillose beneath. According to the papillose leaves, *S. teretiuscula* is more closely related to *S. canescens* Don, but all the forms of this variable species have the branchlets distinctly angular.

Here may be mentioned another interesting form I collected in southern Szechuan "in dumetis montium inter viculos Hun-ka et Wo-lo-ho, alt. circ. 3300 m., 13 Junii 1914 (no. 3525; frutex circ. 2 m. altus, alabastra rosea)," the flower buds of which are pink. In its angular branchlets it resembles *S. canescens*, but the young ovate or ovate-elliptic leaves are not distinctly papillose beneath. Judging by its pinkish flowers it seems to represent a new species, but, unfortunately, the flowers are too young to furnish sufficient characters for a description. The young branchlets, leaves, and inflorescences are not quite so distinctly puberulous as in *S. teretiuscula*, and they seem to become very soon almost glabrous. The leaves are entire, and measure up to 15 mm. in length and 7 mm. in width.

**MALUS PUMILA** Mill., var. **subsessilis**, n.var.—A typo praecipue recedit fructibus immaturis subsessilibus iis *Docyniae Delavayi* similibus ovato-ellipticis circ. 2.5 cm. longis et 2 cm. crassis sparse villosis apice concavis sepalis persistentibus conniventibus.

Szechuan australis: inter pagos Hoh-si et Te-li-pu, alt. circ. 2300 m., 7 Maji 1914, *C. Schneider* (no. 1132; typus in Herb. Arb. Arn. et Hb. Schneider; tantum arborem unicam mutilatam probabiliter cultam ad 5-metrale m. vidi).

The subsessile fruit of this apple suggests a *Docynia*, but the leaves and flowers are that of a true *Malus*. So far as I can judge by the material before me, it represents only a form of *M. pumila*, the variability of which needs a careful study. To *M. pumila* sensu meo (Ill. Handb. Laubh. 1:715. 1905) certainly belongs *M. asiatica* Nakai in Matsumura, Icon. Pl. Koisik. 3:19. pl. 155. 1915.

**Malus** (Sect. **DOCYNIOPSIS** Schn.) **docynioides**, sp.n.—Arbuscula squarrosa, ad 6 m. alta; ramuli novelli griseo-villosi, floriferi laxius villosuli ut vetustiores glabrescentes fusciscentes; gemmae satis evolutae ignotae. Folia partim sempervirentia, tenuiter coriacea, biennia elliptico-oblonga vel obovato-elliptica, apice plus minusve rotundata sed apiculata, basim versus sensim attenuata, cuneata, margine subintegerrima vel a medio ad apicem indistincte

glanduloso-crenulata, 2-5.5 cm. longa, 0.7-2 cm. lata vel latiora ad 4.5:2.3 cm. magna, superne intense viridia, nitidula, glabra, subtus pallidiora, laxe villosula, costa nervisque lateralibus utrinsecus plerisque 5 prominulis flavescentibus glabrioribus, petiolis superne sulcatis saepissime laxe villosulis ad 1 cm. longis; folia novella versus apicem pleraque distinctius crenato-dentata vel irregulariter sublobulato-dentata, ad 3:1.7 cm. magna, superne in costa sparse lanuginosa, subtus satis dense griseo-villosula, in costa nervisque tomentella, petiolis ad 8 mm. longis tomentellis. Flores ad 1-3 fasciculati, fere sessiles, albi, circ. 2.5 mm. diametientes; sepala 4-5 mm. longa, late triangularia, subito breviter acuminata, utrinque satis dense lanuginosa, receptaculo dense griseo-villoso-tomentello subaequilonga; petala ovalia, apice rotundata, basi breviter unguiculata, circ. 13 mm. longa et 7 mm. lata; stamina circ. 30, longiora petalis triente breviora, antheris flavis; styli 5, parte inferiore connati, paullo supra basim villosuli, staminibus longioribus breviores; ovarium 5-loculare, loculis in stylorum basi distincte productis 2-ovulatis ovulis plus minusve superimpositis vel appositis. Fructus ignoti.

Szechuan australis: inter Kua-pie et Ta-tiao-ko, alt. circ. 2700 m., 23 Maji 1914, *Schneider* (no. 1349; typus in Herb. Arb. Arn. et Hb. Schneider).

The old leaves of this strange *Malus* are very much like those of *Docynia Delavayi* (Fr.) Schn., which are almost entire but sometimes show a similar dentation. The flowers, however, of *M. docynioides* are different from those of a true *Docynia* in having only 2 ovules in each carpel, while in *D. Delavayi* as well in *D. indica* Decne. I have always found 4-6 ovules. Otherwise the structure of the ovary of our new species agrees with that of the ovary of *M. Tschonoskii* (Max.) Schn. which, as I have pointed out (FEDDE, Rep. spec. nov. 3:179. 1906), may represent the type of a new section for which I proposed the name *Docyniopsis*. The figure given in SARGENT'S *Trees and Shrubs* 1: pl. 37, fig. 2. 1903 is incorrect, and has been copied by myself in my *Ill. Handb. Laubh.* 1:fig. 403h; the cells of the ovary are distinctly protruding into the base of the styles. As REHDER has stated (SARGENT, l.c. 74), the separation of the genus *Docynia* from *Malus*, especially from the group formerly regarded as genus *Eriolobus*, is rather an artificial one. But, after all, I hesitate to unite the true species of *Docynia* with *Malus*, and I refer to this genus all the species which possess only 2 (very rarely 3) ovules in each cell of the ovary, while *Docynia* may be distinguished by its 4-6-ovulate carpels.

**Sorbus** (Sect. ARIA) **Ambrozyana**, sp.n.—Frutex elatus vel arbor parva, habitu *S. Ariae*; ramuli annotini glabri, fusco-purpurei,

lenticellis flavis sparse obtecti, vetustiores fusco-nigrescentes; gemmae ovato-oblongae, acuminatae, perulis paucis fusco-purpureis margine dense longiciliatis cinctae, divaricatae, laterales 7–8 mm., terminales circ. 10 mm. (vel ultra?) longae. Folia decidua, subchartacea, pleraque elliptico-oblonga, minora interdum ovato-elliptica et maxima obovato-oblonga, apice acuta vel plus minusve rarius distincte acuminata, basi satis acute vel late cuneata, rarius subrotundata, minora latiora 6–7 cm. longa et 2.5–3.5 cm. lata, oblonga majora 7:2.5 ad 15:4 cm. vel latiora ad 14:6 cm. magna, margine irregulariter vel dupliciter subglanduloso-denticulata vel sublobata, superne saturate viridia, paullo nitidula, glabra (vel juniora ut videtur in costa nervisque subimpressis sparse pilosa), subtus valde discoloria, pulchre albescentia vel leviter flavescens, facie tomento lanuginoso adpresso oblecta, costa nervisque laterilibus utrinsecus 9–10 subrectis in dentes exeuntibus angulo circ.  $45^{\circ}$  a costa divergentibus prominentibus sparsius lanuginosis vel fere glabrescentibus colore flavescens conspicuis; petioli 1–2 cm. longi, flavescens, superne canaliculati, sparse lanuginosi vel fere glabri. Inflorescentia valde deflorata vel fructifera ramos laterales normaliter 2–3-foliosos ad 3 cm. longos terminans, corymbosa, circ. 5 cm. longa et lata, sparse pilosa vel glabra, fructibus 3–6; pedicelli circ. 5 mm. longi; sepala florum valde defloratorum late vel satis anguste triangularia, partem liberam receptaculi aequantia, initio ut receptaculum lanuginosa, deinde ambo glabra; petala ignota; stamina ut videtur circ. 25; discus cupularis, glaber; styli 2,  $2/3$  connati, basi parce lanuginosi; ovarium totum inferum, carpellis ventre ut videtur tantum basi connatis in parte libera parce lanuginosis; fructus rubri, obovato-globosi, ad 12:12 vel 15:13 mm. magni, apice parte libera receptaculi et parte inferiore persistente stylorum coronati sepalis plus minusve deciduis, sparse punctati; semina obovalia, valde compressa, apice rotundata, basi sub hilo apiculata, 5–6 mm. longa, 3–3.5 mm. lata, flavo-brunnea.

Yunnan boreali-occidentalis: ad latera orientalia montium niveorum prope Lichiang-fu, alt. circ. 3200 m., Octobri 1914, *C. Schneider* (no. 3913, typus in Herb. Arb. Arn. et Hb. Schneider).

The nearest relatives of this species seem to be *S. Aria* Crtz. and *S. lanata* Koch, from both of which it may at once be distinguished by its much shorter sepals and the different serration and lobation of the leaves. The shape of

its rather narrow and long leaves is different from that of all the other Asiatic species of this group, and I cannot identify it with any species mentioned by REHDER in his *Conspectus specierum Asiae orientalis* (SARGENT, Pl. Wils. 2:272. 1915), nor with any other form known to me.

The name is given in honor of Count ISTVAN AMBROZY, a very successful garden maker on his famous estate at Malonya, Hungary, as a slight return for all his help in my dendrological studies.

*SORBUS HUPEHENSIS* Schn., var. **aperta**, n. var.—*S. aperta* Koehne in SARGENT, Pl. Wils. 1:465. 1913.—A typo praecipue recedit foliis (4-)5, non 6-8-jugis, foliolorum paribus in rhachide interstitiis plerisque 1.8-2.3 cm. longis separatis.

See my remarks under the following variety.

*SORBUS HUPEHENSIS*, var. **obtusa**, n. var.—A typo praecipue recedit foliis 4-5-jugis, foliolorum paribus in rhachide interstitiis 1.5-2.5 cm. longis separatis, foliolis apice distincte obtusis margine tantum triente superiori dentibus utrinsecus 3-9 serratis maximis lateralium ad 5.5:2.2 cm. magnis subtus sub microscopio undique satis dense papillois.

Yunnan boreali-occidentalis: prope Yung-ning, 19 Junii 1914, *C. Schneider* (no. 1166; typus in Herb. Arb. Arn. et Hb. Schneider; arbor circ. 8 m. alta).

In determining the *Sorbus* of the *Aucuparia*-group collected by myself in southern Szechuan and northwestern Yunnan, I cannot refer the above form to any species or variety enumerated by KOEHNE in his *Sorborum chinensium conspectus analyticus* (SARGENT, Pl. Wils. 1:475. 1913). It seems to me most nearly related to *S. aperta* Koeh., from the type of which it differs by its 5-6 (instead of 4-5) pairs of leaflets which are distinctly obtuse at their apex and also distinctly papillose beneath. As in *S. aperta*, the pairs of leaflets are more distant on the rhachis, and the leaflets are somewhat larger than in typical *S. hupehensis*. Otherwise, var. *obtusa* seems to connect the latter with *S. aperta*, and I am unable to detect sufficient differences to keep *S. aperta* a distinct species. I make it, therefore, a variety of *S. hupehensis*, of which it represents the most northern form, chiefly distinguished by its fewer pairs of leaflets.

To the typical *S. hupehensis* Schn. (in Bull. Herb. Boiss. II. 6:316. 1906; and Ill. Handb. Laubh. 1:680, fig. 374r, 775n. 1906), I refer the following specimens of my own collections which, partly, may represent var. *laxiflora* (see later) if it is possible to keep this form even as a variety.

Szechuan australis: inter pagos Wo-lo-ho et Hun-ka, in silvis apertis montium, alt. circ. 3000-3400 m., 13 Junii 1914, *C. Schneider* (no. 3532; arbor circ. 10 m. alta, trunco circ. 0.6 m. crasso; flores odore valde ingrato).

Yunnan boreali-occidentalis: ad latera orientalia montium niveorum prope Lichiang-fu, in dumetis apertis, alt. circ. 3500 m., Octobri 1914, *C. Schneider* (no. 2829 et 3912; fructus maturi carnei); eodem loco et tempore (no. 2811; fructus carnei; gemmae apice distinctius rufo-lanatae); in angustiiis montium inter Sung-queh et Teng-chuan, 29 Septembris 1914, *C. Schneider* (no. 2905; arbor ad 8 m. alta; fructus carnei; gemmae ut in no. 2811 rufo-lanatae; rhachis foliorum ad 9-jugorum apicem versus distinctius alata; folia surculorum a me in eadem arbore abscissorum minora ad 12-juga foliolis tantum ad 2:0. 7 cm. magnis iis *S. Prattii* non absimilibus).

The fruiting branch of no. 2905 agrees well with that of no. 2811, both showing the buds distinctly fulvous at the apex, and the narrow wings of the rhachis. I do not know whether these two numbers represent another form because I have not yet seen fully developed buds of typical *S. hupehensis*.

In nos. 2829 and 3912 the buds are much more glabrous, and the rhachis is almost wingless. I am at a loss how to distinguish these specimens from the type of *S. laxiflora* Koehne collected by E. H. WILSON in western Szechuan, northeast of Tachien-lu, on the Ta-p'ao-shan, July 4, 1908 (no. 3008), and therefore I propose the following variety:

*SORBUS HUPEHENSIS*, var. *laxiflora*, n. var.—*S. laxiflora* Koeh. in SARGENT, Pl. Wils. 1:466. 1913.

It needs further investigation to determine how this variety may really be distinguished from typical *S. hupehensis*. KOEHNE himself says that *S. laxiflora* forms with *S. hupehensis* and *S. aperta* "a special group distinguished by its small stipules, medium-sized leaves with 4-7 pairs of medium-sized leaflets, and by a remarkably loose inflorescence."

There is another group of species described by KOEHNE which I cannot separate because the characters on which they are founded by the author are too variable according to my own observations. I therefore propose to unite them in the following manner:

*SORBUS PRATTII* Koeh., var. *tatsienensis*, n. var.—*S. munda* Koeh. in SARGENT, Pl. Wils. 1:469. 1913, includ. f.a. *tatsienensis* et f.b. *subarachnoidea*.—*S. pogonopetala* Koeh., l.c. 473.—A typo nonnisi foliolis paullo majoribus saepissime basi tantum integerimis argutius et paullo profundius serratis differre videtur.

After a careful comparison of all the type numbers before me, I do not even know how to distinguish *S. munda* as a variety from *S. Prattii*. In describing *S. pogonopetala* the author apparently overlooked the fact that the type of this species (*E. H. Wilson's* no. 3003), a flowering specimen, and the only one the author has seen, came from the same locality (Pan-lan-shan, west of Kuan Hsien) as *Wilson's* no. 4323 which KOEHNE makes the type of his *S. munda* f. *subarachnoidea*. But this fruiting specimen agrees in every respect with the



flowering one, the only difference I can detect being that the pubescence is somewhat fulvous, while it is greyish in no. 3003. KOEHNE says: "*Sorbus pogonopetala* differs from all the other Chinese species with numerous small leaflets in its strongly bearded petals; it is also remarkable in the purplish black color of its petioles and rhachis." The last mentioned character is, in my opinion, judging by the co-type before me, of no value, and apparently only due to an effect of drying. The hairy petals are also present in *S. Prattii*, in the description of which the author himself says "petala . . . medio supra parce tenere lanato-barbata." I fail to see any difference between the "beards" of *S. Prattii* and of *S. pogonopetala*.

Of both *S. Prattii* and *S. munda*, KOEHNE has described two forms, the first one, of course, representing nothing else than the type. In reducing *S. munda* to a variety of *S. Prattii*, the name of KOEHNE's f.a. *tatsienensis* has to be used, according to international rules, as the new varietal name. It may also be mentioned that the presence or absence of papillae on the under surface of the leaves is a rather doubtful character to base any varieties or even species upon. In our case, the younger leaves of *S. pogonostyla* are "subtus epapillosa," while of *S. munda* they are described as "subtus sat valide papillosa, inter papillas parce v. haud reticulato-striata." In the specimen of *S. munda* (no. 4323) before me the leaves may better be described as "subtus satis indistincte papillosa," and the kind of papillae observed on the leaves of these species of *Sorbus* seems to be always much more indistinctly developed on the younger leaves than on the mature ones, and they are quite often entirely absent "non nisi circa stomata." After all, I believe we ought not to lay too much stress upon the development or absence of these papillae.

ARNOLD ARBORETUM  
JAMAICA PLAIN, MASS.